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ABSTRACT

This study investigated the development of teachers' conceptions of learning disabilities (LD) as a function of experience with pupils having LD. An expert group of 25 LD-certified special education teachers, a transition group of 24 regular classroom teachers of mainstreamed LD pupils, and a novice group of 20 undergraduate special education majors were found to differ significantly in their levels of understanding regarding the description, explanation, and treatment of LD, but not regarding prognosis. Stepwise multiple regression analyses showed that the treatment dimension of the LD concept significantly predicted expectations of the LD pupil's academic performance for LD teachers and special education undergraduates. It also predicted quality of individualized educational programming for regular classroom teachers and the total sample. The explanation dimension significantly predicted knowledge of educational placement for all groups. Implications for theory, research, and application are discussed. (RH)

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Teachers' Conceptions of Specific Learning Disabilities: Relationships to Expectations, Placement, and Programming

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ABSTRACT

Using a social cognitive-developmental framework, the present study investigated the development of teachers' conceptions of learning disabilities as a function of experience with LD pupils. An expert group of 25 LD-certified special education teachers, a transition group of 24 regular classroom teachers of mainstreamed LD pupils, and a novice group of 20 undergraduate special education majors were found to differ significantly in their levels of understanding regarding Description, Explanation, and Treatment of LD, but not Prognosis. Stepwise multiple regression analyses showed that the Treatment dimension of the LD concept significantly predicted expectations of the LD pupil's academic performance for LD teachers and Special Education undergraduates. It also predicted quality of individualized educational programming for Regular classroom teachers and the total sample. The Explanation dimension significantly predicted knowledge of educational placement, across groups. Theoretical, research, and applied implications are discussed.

Teachers' Conceptions of Specific Learning Disabilities: Relationships to Expectations, Placement, and Programming

A tetrahedral framework (Brown, Bransford, Ferrara, and Campione, 1983), found useful in research learning and instruction, identifies four separate yet interactive factors which comprise the learner-in-context: 1) the learner's activity, 2) the characteristics of the learner, 3) the nature of the materials to be learned, and 4) the criterial task. For special education and regular teachers who provide services to pupils with specific learning disabilities or LD, the second factor, i.e., characteristics of the learner, must include those characteristics specifically associated with this condition. In other words, teachers must have a good understanding of specific learning disabilities.

Using a social cognitive-developmental framework, the present study investigated the development of teachers' conceptions of learning disabilities as a function of experience with LD pupils. It also assessed experience-related differences in their expectations of LD pupils' academic and social competencies, their attitude or knowledge about placement, and their individualized educational programming for LD pupils. Last, it examined the role of conceptions of LD as predictors of expectations, placement attitude or knowledge, and programming.

For the purposes of this study, learning disabilities was

defined as in Public Law 94-142 (U.S. Congress, 1977):

"Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunctions, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, or mental retardation, or emotional disturbance, or environmental, cultural, or economic disadvantage" (U.S. Department of Education, 1977, pp. 65082-65085). Although controversy regarding the definition of LD exists and a new definition has been proposed by the National Joint Committee on Learning Disabilities (1987), the federal definition remains the most widely used. It was, and still is, used in the school system where the present study was conducted.

Several studies (e.g., Kirk, Berry, & Senf, 1979) have assessed teachers' awareness of the defining characteristics and causes of LD. However, none have, as in the present study, conceptualized it as a multidimensional construct with four criterial dimensions: Description, Explanation, Treatment, and Prognosis. Moreover, none have investigated the development of

this concept in teachers. Based on the suggestion of Flavell and Ross (1981) that concept formation in adults, rather than being simply a straighforward increase in knowledge with increase in experience, is a developmental process whereby domain-specific insights gathered from one's individual experience or one's profession undergo increasing differentiation and hierarchic integration of parts, the present study assessed the ontogenesis of teachers' conceptions of learning disabilities.

Adult concept formation is influenced by many factors, including didactic instruction and experience. Thus, teachers with varying degrees of experience with LD students may have different levels of understanding about this syndrome. The present study tested this hypothesis by comparing the conceptions of three groups of teachers with differing amounts of experience with LD pupils.

Social cognitive theorists (e.g., Fishbein & Ajzen, 1974) have proposed that there is a relationship between social cognition and behavior. Demonstration of this relationship, however, depends somewhat on the nature of the variables taken into account. Within the tetrahedral model (Brown et al, 1983), it is assumed that a teacher's knowledge of the learner's characteristics will enhance instruction. Thus, from two perspectives, there are grounds for hypothesizing that teachers' understanding of LD might influence their expectations, attitudes, and decisions regarding LD pupils. The present study

examined the role of teachers' ideas about Description, Explanation, Treatment, and Prognosis of LD as predictors of their expectations of LD pupils' academic and social competencies, their attitudes and knowledge regarding placement of these pupils, and their individualized educational programs for them.

Method

Subjects

The sample consisted of 69 white females classified into three groups: an expert group of 25 special education teachers with certification in LD, a transition group of 24 regular classroom teachers with LD pupils mainstreamed into their classes, and a novice group of 20 undergraduate seniors majoring in special education. Both groups of teachers had at least three years of teaching experience. The undergraduates had completed course requirements for field practica and student teaching.

Measures

Teachers' understanding of specific learning disabilities was assessed through an adult version of the Conceptions of Learning Disability Questionnaire or CLDQ used in an earlier study by Serafica and Sweazy (1982). This measure yields two kinds of data: a categorical score denoting assignment to a level and a numerical score indicating level of understanding for each of the four dimensions: Description, Explanation, Treatment, and Prognosis.

To assess the construct validity of the CLDQ, Part I of the Survey of Attitudes concerning LD (Kirk, Berry, & Senf, 1979) was also administered. This portion of the survey deals with the concept of LD.

Expectations of a hypothetical LD child were assessed using the Projected Academic Performance Scale - Teacher's Version constructed by Chapman and Boersma (1978) and the Teacher's Rating Scale of the Child's Actual Competence (Harter, 1979).

Attitude and knowledge regarding educational placement was measured through the Rucker-Gable Educational Programming Scale (Rucker & Gable, 1973).

Teachers' individualized educational programming decisions were examined using the Individualized Educational Programming Questionnaire, a measure constructed for this study. Scores are assigned based on the number of problem areas addressed, goals/instructional objectives listed, and specific training methods suggested for each of two hypothetical cases.

Finally, to control for a possible bias toward socially desirable responses, The Social Desirability Scale (Crowne & Marlowe, 1964) was also administered.

Procedures

Each teacher was interviewed individually to elicit responses to the Conceptions of Learning Disability Questionnaire. Then, she received instructions on how to complete each of the other measures in a specified counterbalanced order.

Results

Before reporting the results pertaining to the primary aims of this study, results from preliminary analyses relative to the CLDQ should be mentioned.

Interrater reliability for responses to the Conceptions of Learning Disability Questionnaire, based on correlations between ratings of two independent raters, were as follows: .94 for Description, .91 for Explanation, .92 for Treatment, and .84 for Prognosis.

Insert Table 1 about here

Internal consistency of the CLDQ was established by examining correlations among the four dimensions. As shown in Table 1, description was significantly related to all of the other dimensions. In addition, Explanation was significantly related to Treatment. Prognosis was not significantly related to either Explanation or Treatment.

To assess the construct validity of the CLDQ, scores on Part I of the Survey of Attitudes Concerning LD (Kirk, Berry, & Senf, 1979) were correlated with scores for each of the four

dimensions. Survey scores were significantly related to scores for Description ($r = .37$, $p<.001$), and Treatment,($r = .28$, $p<.01$) but not to scores for Explanation and Prognosis. Lack of a significant relationship with Prognosis was not surprising because the Survey hardly deals with it. The finding regarding Explanation can be attributed to differences in how this dimension is assessed by the two measures. While the Survey simply asks respondents to identify causes, the CLDQ rates them as well on whether they attribute LD to single or multiple causes, internal or external causes, or to an interaction among different internal or external factors.

Now, the major findings will be presented. Chi-square analyses revealed significant experience-related differences for 3 of the 4 dimensions of teachers' conceptions of learning disability: Description, $^2(8, N = 68) = 52.78$, $p<.01$,) $^2(8, N = 68) = 20.44$, $p<.01$, Explanation, and Treatment, $^2(8, N = 68) = 24,18$, $p<.01$. As expected, level of understanding increased significantly with experience. LD teachers showed the highest level, followed by Regular teachers, then Special Education students. Group differences for Prognosis were in the expected direction, but did not reach an acceptable level of significance. Table 2 shows the means and standard deviations of each group, for each dimension.

Insert Table 2 about here

Partitioned chi-squares for scores on Description revealed significant differences between all three groups, with Special Education students having significantly lower scores than Regular teachers and LD teachers, and Regular teachers having significantly lower scores than LD teachers. Partitioned chi-square scores for Explanation revealed that Special Education students and Regular teachers differed significantly from LD teachers, but not from each other. Partitioned chi-square scores for Treatment showed similar results. Thus, while Regular teachers were more advanced than Special Education students in their Descriptions, their ideas about Explanation and Treatment were at approximately the same levels.

Before examining the role of teachers' LD conceptions as predictors, separate ANCOVAs with social desirability scores as covariates were used to test for experience-related differences in teacher expectations, attitude or knowledge about placement, and individual educational programming. Significant group effects on teacher expectations of the LD pupil's academic performance and social competence did not emerge. Significant group differences in individualized educational programming were also not found. However, there was a significant group effect on attitudes toward educational placement, $F(1, 66) = 4.62$, $p<.05$). Regular teachers preferred consultation and direct services while

the LD teachers and Special Education undergraduates were significantly more likely to choose part-time special class or resource room services. Finally, there were no significant group differences in knowledge of appropriate educational placement. Unlike the experts in the original normative study by Rucker & Gable (1973), all groups were less knowledgeable about full-time special class placement as an appropriate option. Table 3 presents the means and standard deviations for the five dependent variables.

Insert Table 3 about here

Stepwise multiple regression analyses were used to explore whether teachers' ideas about Description, Explanation, Treatment, and Prognosis significantly predicted their expectations of the LD child's academic performance and social competence, their attitude and knowledge regarding placement, and their individualized educational programming. Since experience related differences had been found, regression analysis was performed separately for each group, then for the total sample. It was found that the Treatment dimension significantly predicted expectations of academic performance in LD teachers $F(1, 19) = 4.76$, $p<.05$, and Special Education students, $F(1, 25) = 10.33$, $p<.01$, but not in Regular teachers. This dimension also significantly predicted individualized educational programming in

Regular teachers, $F(1, 24) = 11.94$, $p<.005$, but not in LD teachers and Special Education students. None of the four dimensions were found to predict expectations of social competence, educational attitude or knowledge regarding educational placement in any of the groups. However, for the total sample, Explanation significantly predicted knowledge of appropriate placement $F(1, 68) = 4.83$, $p<.05$, and Treatment significantly predicted attitude or preferred placement, $F(1, 68) = 4.83$, $p<.05$.

Discussion

The results of the present study indicate that experience plays a role in the development of a teacher's conception of learning disability. As expected, the expert group of LD teachers had more sophisticated ideas about the description, explanation, and treatment of specific learning disabilities than either the transition group of Regular teachers or the novice group of Special Education undergraduates. Furthermore, the transition group of Regular teachers was more advanced than the Special Education undergraduates on one dimension but not on others.

The findings also suggest that the development of adults' understanding of a specific construct can be viewed in terms of less developed versus more developed levels of organization. For example, Regular teachers' descriptions were more elaborated than those of Special Education undergraduates, but showed no recognition that some characteristics were more critical than

others. In contrast, LD teachers' descriptions showed some kind of ordering, indicating that discrepancy between achievement and intellectual potential, psychological process deficits, and satisfaction of the exclusion criteria are the defining characteristics.

Finally, the present study provides further evidence that demonstrating a relationship between social cognition and behavior is somewhat dependent upon the nature of the variables involved. Of the four dimensions assessed in the total sample, LD Concept only Explanation and Treatment were significant predictors. Both successfully predicted teacher attitude and knowledge of educational programming, a finding that should be of interest to educators.

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Table

1

Intercorrelations among the Dimensions of the Learning Disability Construct

Dimensions	Cause	Treatment	Prognosis
Description	.46**	.44**	.45**
Explanation	——	.33*	.10
Treatment		——	.19
Prognosis			——

*p < .005 **p <.001

Table 2

Mean Level Scores for Teachers' Understanding of Learning Disabilities

	Group					
	Special Ed		Regular		LD	
Dimension	M	SD	M	SD	M	SD
Description	3.8	0.8	4.5	1.3	5.9	0.3
Explanation	3.8	1.1	4.2	1.1	5.2	1.0
Treatment	5.2	0.9	5.6	1.5	6.5	0.7
Prognosis	3.4	0.8	3.7	0.7	3.9	0.4

Table 3

Mean Scores for the Five Dependent Variables

	Group					
	Special Ed.		Regular		LD	
Variable	M	SD	M	SD	M	SD
Academic Expectations	4.2	0.5	4.2	0.4	4.4	0.5
Social Expectations	2.0	0.6	2.0	0.3	1.9	0.5
Educational Programming	12.7	4.2	13.0	6.5	14.5	4.6
Placement Attitudes	4.0	0.5	4.5	0.5	4.0	0.5
Placement Knowledge	3.5	0.9	3.1	0.9	3.4	0.9